

Agenda Item 6

Mercury Strategy –
Ecosystem Restoration
Program

Authority Action

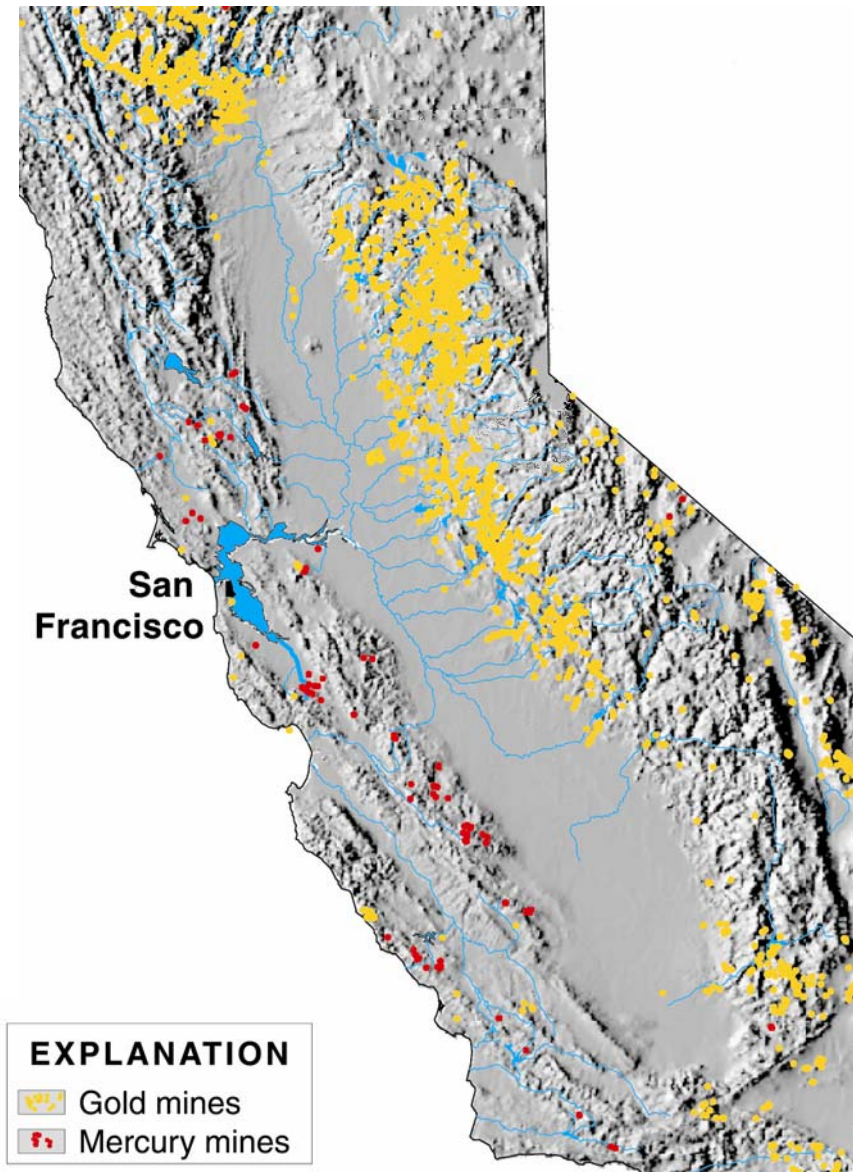
Consider Resolution 04-06-03

Directing Implementation of the Mercury
Strategy for the Bay-Delta Ecosystem

Mercury Strategy for the Bay-Delta Ecosystem

A Unifying Framework for
Science, Adaptive
Management, and Ecological
Restoration

Sources of Mercury



Adapted from USGS

Natural abundance

High in Coast Ranges
Lower in Sierra Nevada

Mining sources

Current and historic wastes from 239 known mines, most in Coast Range (inorganic Hg & MeHg)

Up to 3.6-million kg of Hg lost during precious-metal processing in Sierra Nevada during the late 1800's (Alpers & Hunerlach 2000)

Riverine inputs

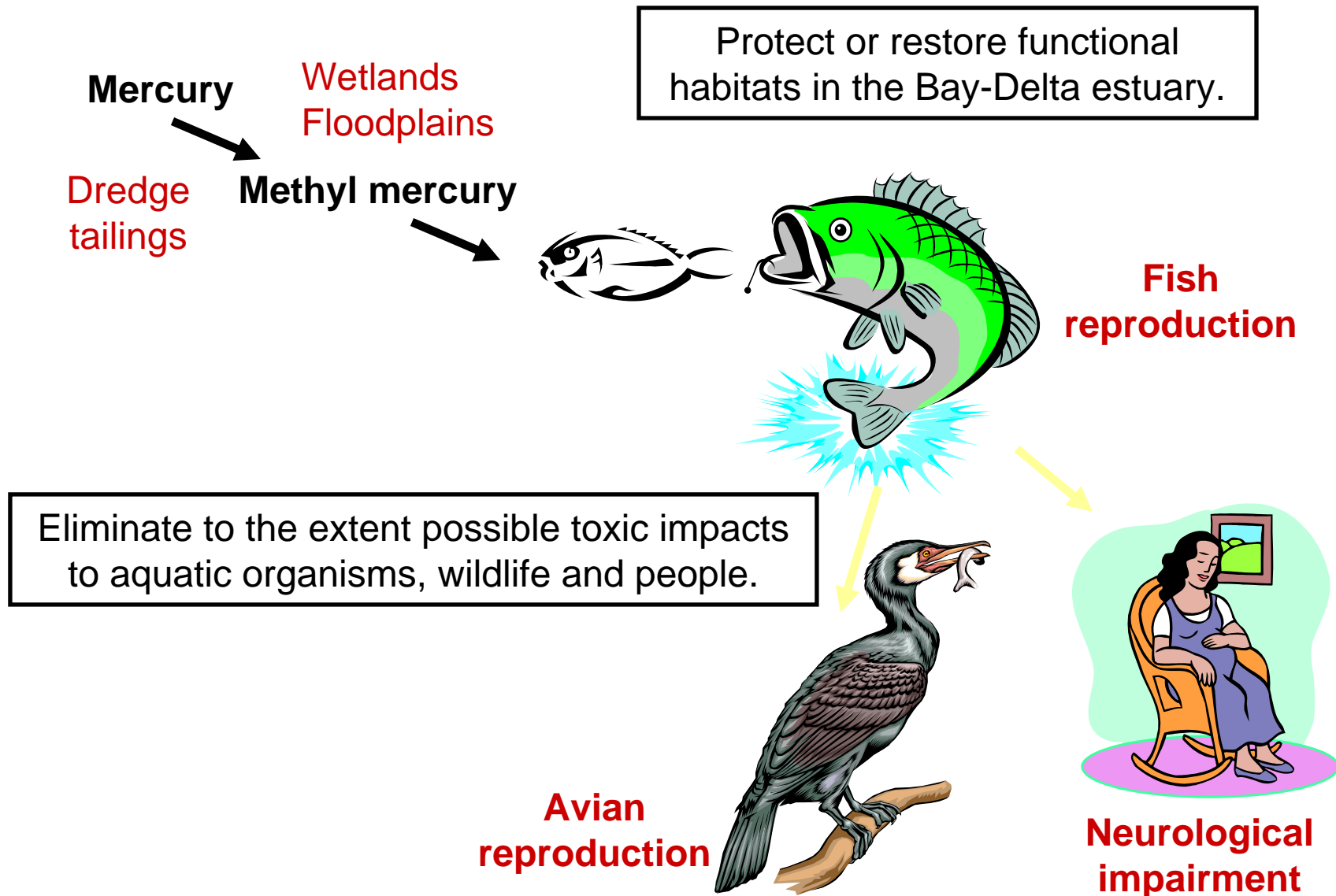
Contaminated waterways in Coastal and Sierra ranges continue to export inorganic Hg and MeHg to the Bay-Delta



Hydraulic mining

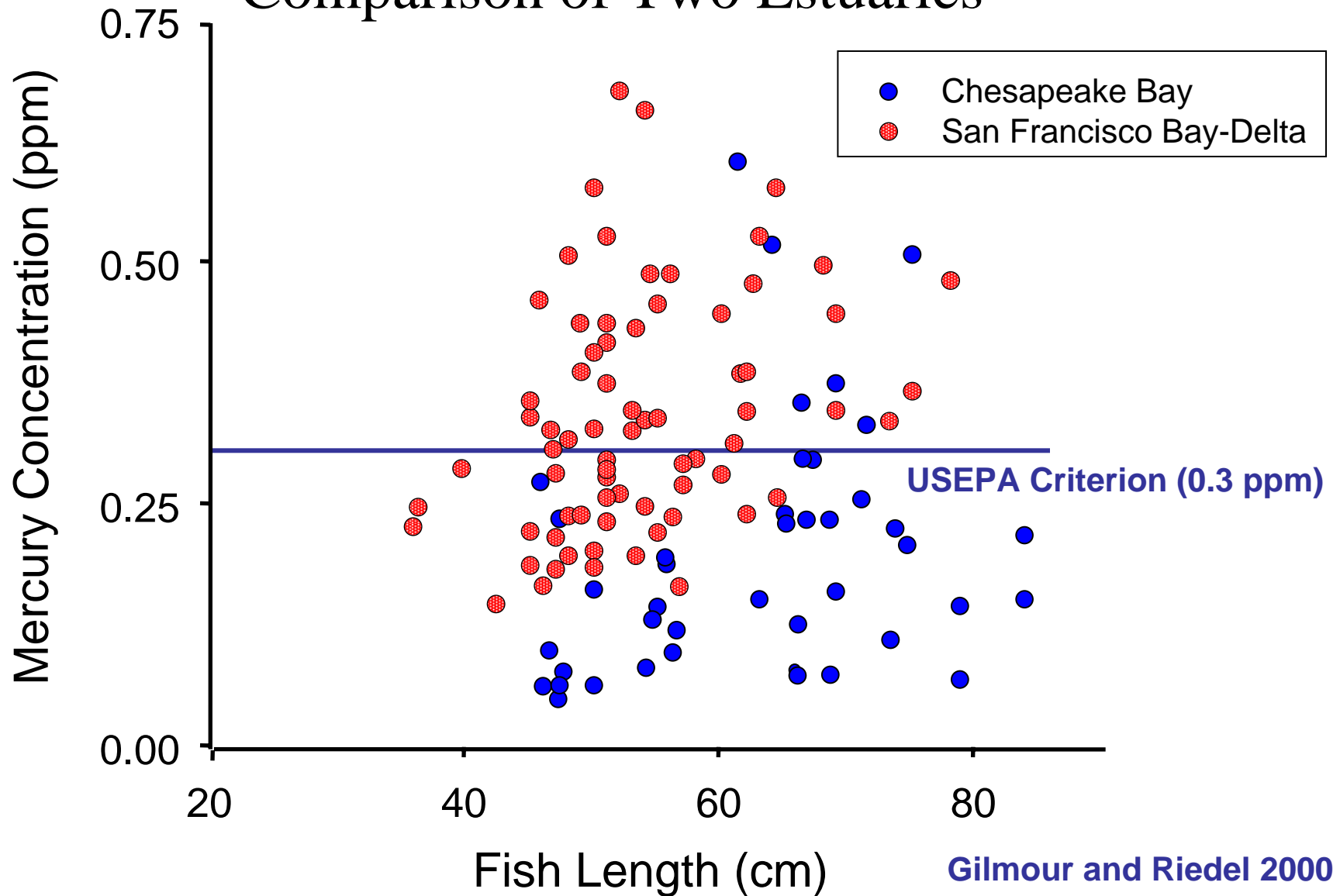


Why is it a problem?



Mercury Contamination of Striped Bass

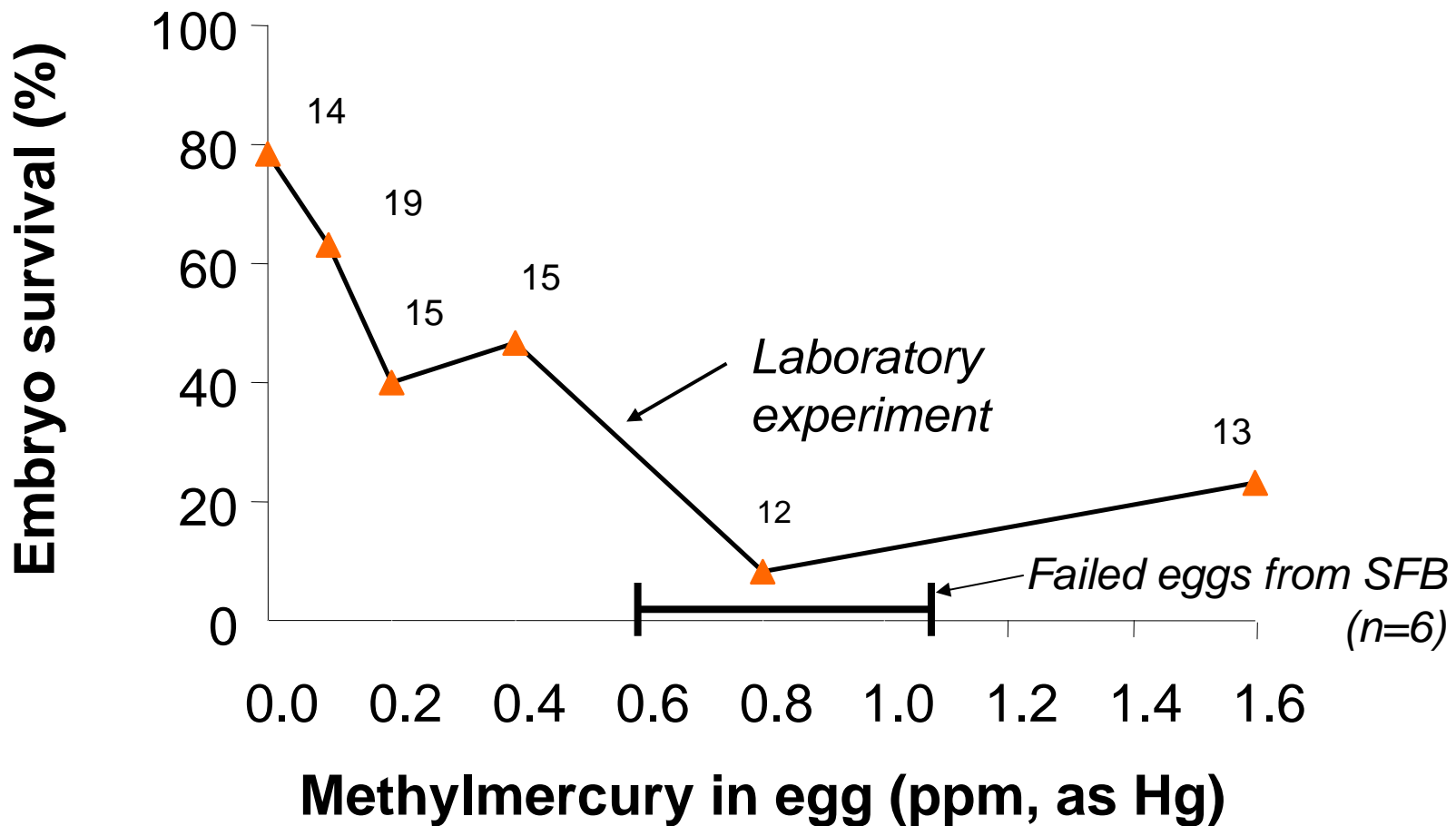
Comparison of Two Estuaries



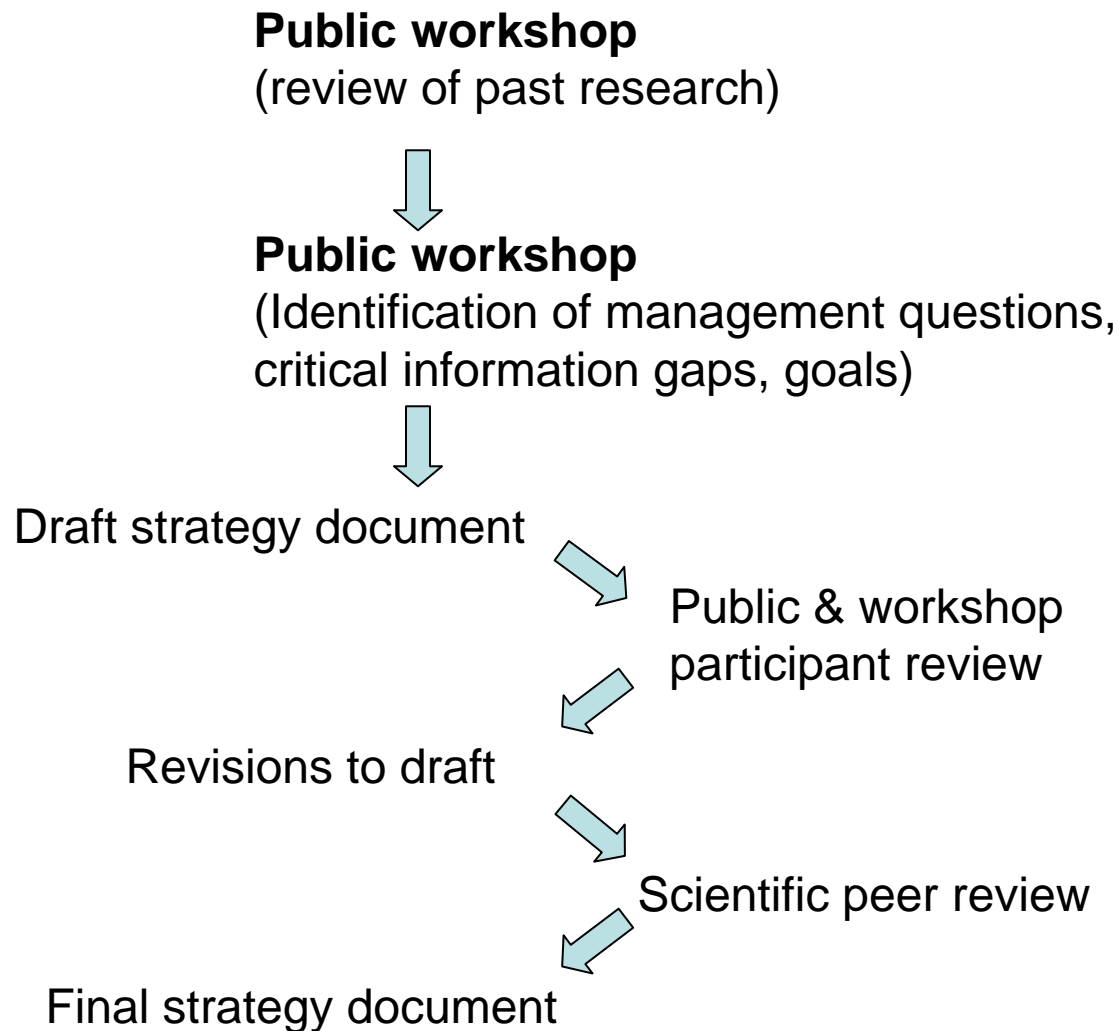
Methylmercury exposure: Is reproductive success being affected in California clapper rails?

Laboratory data by Heinz (USGS)

Field data by Schwarzbach & Adelsbach (FWS)



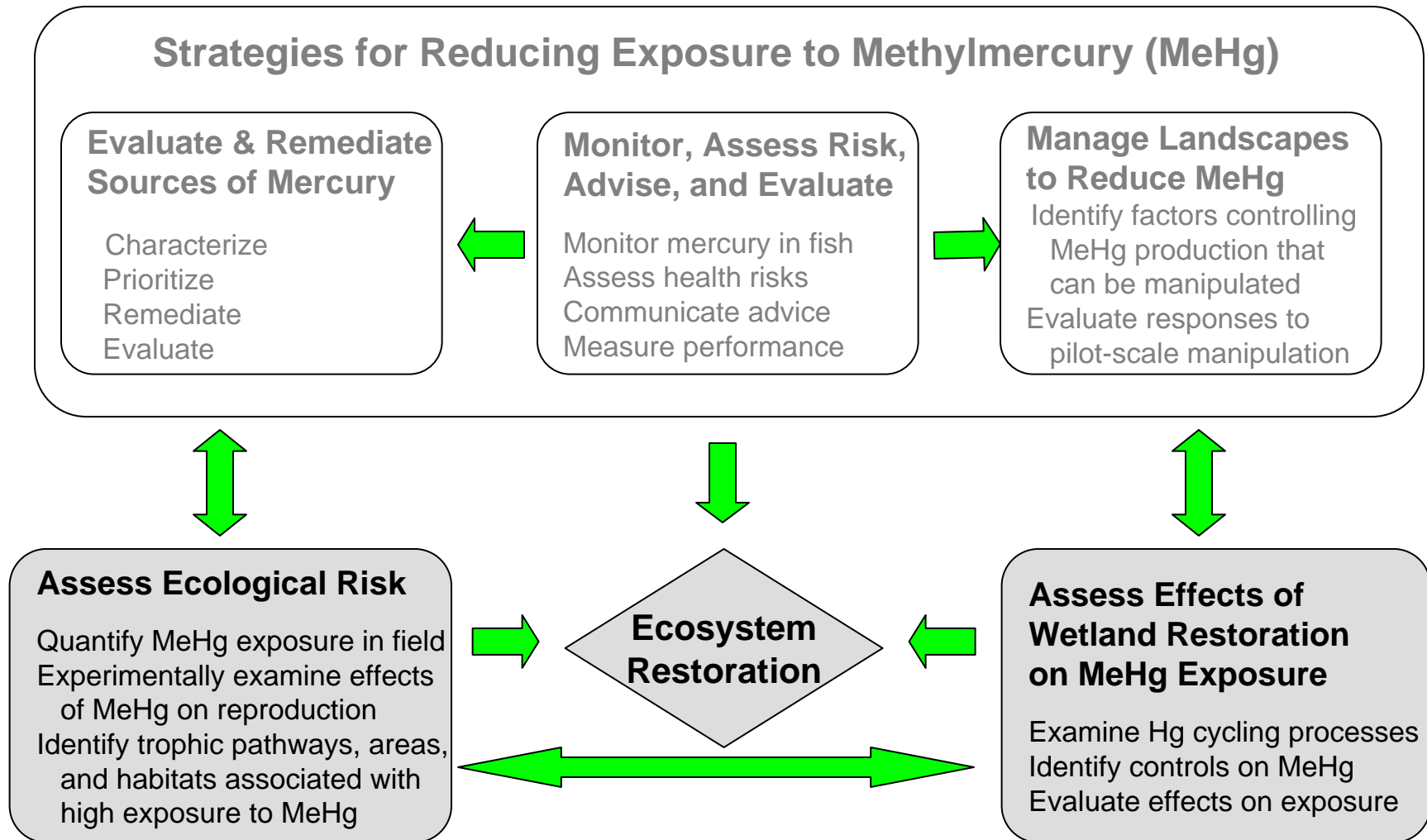
Process for development of the Mercury Strategy



Mercury Strategy

- A Unifying Framework for Science, Adaptive Management and Ecological Restoration
- Problem: biotic exposure to methylmercury
- Management goal: To avoid increasing – and to eventually decrease biotic exposure to methylmercury

The Mercury Strategy: Core Components and Linkages



The Scientific & Management Challenge: Reducing Exposure to Methylmercury

Approach

Source reduction

Fish advisories

Landscape management
(largely untested)

Objective

Decrease mercury inputs to
environment and mass
available for methylation

Reduce dietary exposure in
humans

Decrease methylmercury
production in ecosystems

Next steps

- Solicit proposals consistent with the strategy
- Develop monitoring program
- Build institutional framework to support strategy
- Develop implementation plan

Elements of a plan

- Document past and present activities and how they relate to the Mercury Strategy
- Identify gaps
- Recommend priority activities and associated budgets